

ABSTRACT

A self-adjusting PWM regulator which minimizes undershoot and overshoot conditions is disclosed. The regulator includes a charge pump, a voltage comparator circuit, and a latch circuit. The input of the voltage comparator circuit includes an output of the charge pump. The input of the latch circuit includes an output from the voltage comparator circuit. The latch circuit includes a pair of SR latches coupled to a pair of AND/OR gates. The latch circuit transmits a first signal to the charge pump to prevent an overshoot condition if the output from the voltage comparator circuit is in a first state, and transmits a second signal to prevent an undershoot condition if the output from the voltage comparator circuit is in a second state. This keeps the charge pump adjusted within the limits of its control.